

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 H01L51/20 H01L27/15

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 H01L B81C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No
X	US 2002/170175 A1 (AIGNER ROBERT ET AL) 21 November 2002 (2002-11-21)	1,3, 8-10, 12-17, 22-26
Y	figures 1-3 paragraphs '0019!, '0022! - '0024!, '0031!, '0033! column 3, paragraph 51-54 figures 7,9,10	1-11, 16-24, 27-32
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

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Date of the actual completion of the international search

10 September 2004

Date of mailing of the international search report

17/09/2004

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	<p>PATENT ABSTRACTS OF JAPAN vol. 2003, no. 04, 2 April 2003 (2003-04-02) -& JP 2002 352951 A (TOHOKU PIONEER CORP), 6 December 2002 (2002-12-06) abstract; figures 1-3</p> <p>-----</p>	<p>2,4-7, 11, 18-21, 27-32</p>
Y	<p>US 5 668 033 A (KANAMORI KATUHIKO ET AL) 16 September 1997 (1997-09-16)</p> <p>columns 1,2,4 - column 6, lines 6-9 figures 16-18 column 9, lines 26-33 - column 13, lines 15-31</p> <p>-----</p>	<p>1-3, 8-10,16, 17,22-24</p>
A	<p>US 2001/052752 A1 (GHOSH AMALKUMAR P ET AL) 20 December 2001 (2001-12-20) paragraph '0042! paragraph '0032!; figure 5</p> <p>-----</p>	<p>1-32</p>
A	<p>PATENT ABSTRACTS OF JAPAN vol. 2002, no. 02, 2 April 2002 (2002-04-02) -& JP 2001 297878 A (NIPPON SEIKI CO LTD), 26 October 2001 (2001-10-26) abstract figures 2,4</p> <p>-----</p>	<p>4-7, 18-21, 27-31</p>
A	<p>US 2002/044124 A1 (ARAI YASUYUKI ET AL) 18 April 2002 (2002-04-18) figures 1,15A,15B paragraphs '0014!, '0097! paragraphs '0214! - '0230!</p> <p>-----</p>	<p>1-32</p>

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 2002170175	A1	21-11-2002	DE 19962231 A1 AT 272845 T DE 50007326 D1 WO 0146664 A2 EP 1240529 A2 JP 2003517946 T	12-07-2001 15-08-2004 09-09-2004 28-06-2001 18-09-2002 03-06-2003
JP 2002352951	A	06-12-2002	NONE	
US 5668033	A	16-09-1997	JP 8316497 A DE 19619921 A1	29-11-1996 05-12-1996
US 2001052752	A1	20-12-2001	AU 5519401 A WO 0182390 A1 WO 02071506 A1 US 2002003403 A1	07-11-2001 01-11-2001 12-09-2002 10-01-2002
JP 2001297878	A	26-10-2001	NONE	
US 2002044124	A1	18-04-2002	JP 2002108243 A TW 538246 B	10-04-2002 21-06-2003